

THE FACTORS INFLUENCING THE PERCEPTION OF THE BENEFICIARIES TOWARDS SOIL HEALTH CARDS IN VISAKHPATNAM DISTRICT

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ABSTRACT

The Soil Health Card scheme was launched in the International year of Soils to maintain the quality and health of soils. The current study examined Visakhapatnam district of Andhra Pradesh state to understand the profile of the beneficiaries and their relationship with the level of perception towards Soil Health Cards. This study was carried out in five villages, viz., Anakapalli North-2, Anakapalli South- 2, Kundram, Seethanagaram and Tagarampudi were purposively selected. A sample size of 121 respondents was derived using the proportionate random sampling method. The beneficiaries were approached personally by the researcher for data collection using pre- structured interview schedule. From the data it was found that Innovativeness, Satisfaction Index, Perception on Soil Health and Knowledge regarding Soil Health Cards were found to be significant and contribute positively to the level of perception of the beneficiaries towards Soil Health Cards, while Farming Experience and Risk Orientation showed a negative and significant contribution to the perception of the beneficiaries towards the Soil Health Cards.

KEYWORDS: Perception, Soil Health, Soil Testing & Soil Health Card

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INTRODUCTION

Healthy soil contains all the elements for growth and development of crops, where deprivation of any one or more nutrients would lead to a reduction in the production and degradation in the quality of crops. Hence, the quantity and proportion of all the micro and macro nutrients together refers to soil health. Correct maintenance of the soil health is required from agricultural point of view, which implies to the capacity of soil. This ensures proper physical, chemical and biological processes for sustaining higher crop productivity.

Soil testing is one of the most important scientific tool which helps in estimating the power of the soil in supplying nutrients to the soil. Srivastava and Pandey (1999) stated that the farmers were continuously using larger quantities of chemical fertilizers without actually knowing the fertility status of the soils in their field with a thought to increase production. The Government of India launched the Soil Health Card scheme, to avoid the degradation of soil in the long run and conceptualizing the importance of nutrient balance in crop production.

Based on the soil health analysis, the Soil Health Card provides with appropriate guidance to the farmers along with the soil health data for the efficient use of fertilizers for different crops. Keeping these facts in mind, the present study was undertaken with the following specific objective.

To analyze the relationship between the profile and the perception of the beneficiaries.

MATERIALS AND METHODS

The study followed ex- post facto research design and carried out in Viskhapatnam district (Andhra Pradesh). Out of the forty blocks in the district, Anakapalli block has been purposively selected for the study based on the existence of maximum number of Soil Health Card beneficiaries. Among the 35 revenue villages in Anakapalli block, five villages namely Anakapalli North-2, Anakapalli South- 2, Kundram, Seethanagaram and Tagarampudi were purposively selected.

The list of Soil Health Card beneficiaries in the selected villages were obtained from the officials of the State Department of Agriculture. From the list, 121 farmers were selected by using the proportionate random sampling technique. The data were collected during the month of January- February 2019 through personal interviews with the beneficiaries.

Multiple regression and correlation was carried out to find out the relationship between the profile and perception of the beneficiaries. The simple correlation measures only the interdependence and gives no idea of how far one is dependent on the other. The extent of contribution of all the profile characteristics was calculated using the multiple regression analysis. Hence the linear multiple regression was selected as one of the statistical tool for the analysis.

RESULTS AND DISCUSSIONS

Perception means the apprehension with the mind or senses an immediate or initiative recognition as of moral or aesthetic quality. It can also be defined as an active process of becoming aware or getting meaningful understanding about the situation. Perception about Soil Health Card by respondents formed the crux of the study. The data were collected as per the methodology explained previously. Further, the gathered data were classified, tabulated and analyzed using the scientific methods to get the results. The interpreted results bring out emphatically the most striking relationship between the variables. The findings are furnished under the following in accordance to the objective.

Table 1: Association Between Independent Variables and Perception Towards Soil Health Card

S. No	Variables	Correlation Coefficient (r) Value
1.	Age (X_1)	-0.190*
2.	Educational status (X_2)	0.224*
3.	Land holding (X_3)	-0.075 ^{NS}
4.	Annual income (X_4)	0.101 ^{NS}
5.	Farming experience (X_5)	-0.293**
6.	Occupational status (X_6)	-0.024 ^{NS}
7.	Extension agency contact (X_7)	0.174 ^{NS}
8.	Mass media exposure (X_8)	0.273**
9.	Innovativeness (X_9)	0.454**
10.	Scientific orientation (X_{10})	0.293**
11.	Risk orientation (X_{11})	-0.446**
12.	Perception on soil health (X_{12})	0.524**
13.	Satisfaction index (X_{13})	0.506**
14.	Knowledge regarding soil health cards (X_{14})	0.572**

NS- Non Significant

** Significant at one per cent level

* Significant at five per cent level

From the table, it is evident that out of the 14 variables studied, the variables, namely Mass media exposure (X_8), Innovativeness (X_9), Scientific orientation (X_{10}), Perception on Soil Health (X_{12}), Satisfaction Index (X_{13}) and Knowledge regarding SHCs (X_{14}) showed positive and significant correlation. Farming experience (X_5) and Risk orientation (X_{11}) showed negative and significant correlation at one per cent level of probability with the perception of beneficiaries towards Soil Health Cards. Educational status (X_2) showed positive and significant correlation at the five per cent level of probability with the perception of beneficiaries towards Soil Health Cards, whereas age (X_1) was negative and significantly correlated. The remaining variables had non- significant association with perception towards Soil Health Cards.

Contribution of Independent Variables with Perception of Beneficiaries Towards Soil Health Card

The contribution of independent variables, namely Age (X_1), Educational status (X_2), Land holding (X_3), Annual income (X_4), Farming experience (X_5), Occupational status (X_6), Extension agency contact (X_7), Mass media exposure (X_8), Innovativeness (X_9), Scientific orientation (X_{10}), Risk orientation (X_{11}), Perception on soil health (X_{12}), Satisfaction index (X_{13}) and Knowledge regarding soil health cards (X_{14}) were studied with the perception of beneficiaries towards the Soil Health Cards. The result regarding the above details is given below.

Table 2: Contribution of Independent Variables with Perception towards Soil Health Card

S. No	Independent Variables	Partial Regression Coefficient (b)	SE	't' Value
1	Age (X_1)	0.848	1.876	0.452 ^{NS}
2	Educational status (X_2)	-0.777	0.815	-0.945 ^{NS}
3	Land holding (X_3)	-2.422	2.193	-1.104 ^{NS}
4	Annual income (X_4)	0.805	2.134	0.377 ^{NS}
5	Farming experience (X_5)	-5.707	2.104	-2.712**
6	Occupational status (X_6)	-0.500	1.316	-0.380 ^{NS}
7	Extension agency contact (X_7)	-0.094	0.376	-0.249 ^{NS}
8	Mass media exposure (X_8)	0.398	1.742	0.229 ^{NS}
9	Innovativeness (X_9)	5.076	1.615	3.142**
10	Scientific orientation (X_{10})	-1.096	1.754	-0.625 ^{NS}
11	Risk orientation (X_{11})	-5.586	1.286	-4.344**
12	Perception on soil health (X_{12})	3.536	1.453	2.433*
13	Satisfaction index (X_{13})	3.650	1.504	2.426*
14	Knowledge regarding soil health cards (X_{14})	4.981	1.475	3.376**

NS- Non Significant

**Significant at one per cent level $R^2 = 0.611$

*Significant at five per cent level $f = 11.899$

Table indicated that "F" value (11.899) was significant at one per cent level of probability and R^2 value was 0.611 which revealed that 61.10 per cent of variation in the level of perception contributed by the fourteen independent variables selected for the study.

Since the "F" value was significant, the linear regression equation was fitted for level of perception as given below.

$$Y_1 = 77.031 + 0.848 X_1 - 0.770 X_2 - 2.422 X_3 + 0.805 X_4 - 5.707^{**} X_5 - 0.500 X_6 - 0.094 X_7 + 0.398 X_8 + 5.076^{**} X_9 - 1.096 X_{10} - 5.586^{**} X_{11} + 3.536^{*} X_{12} + 3.650^{*} X_{13} + 4.981^{**} X_{14}$$

Out of fourteen variables, four variables, namely Innovativeness (X_9), and Knowledge regarding soil health cards (X_{14}) had positive and significant contribution at one per cent level of probability. Two variables, namely Farming experience (X_5) and Risk orientation (X_{11}) were found to have a negative and significant contribution at one per cent level

of probability. Two variables, namely Perception on soil health (X_{12}), Satisfaction index (X_{13}) was found to have a positive and significant contribution at the five per cent level of probability. All others showed a non significant contribution with perception towards Soil Health Cards.

A unit increase, *ceteris paribus*, in variables namely Innovativeness (X_9), Perception on soil health (X_{12}), Satisfaction index (X_{13}) and Knowledge regarding soil health cards (X_{14}) would increase the level of perception about Soil Health Card by 5.706, 3.536, 3.650 and 4.981 units respectively.

A unit increase, *ceteris paribus*, in Farming experience (X_5) and Risk orientation (X_{11}) would decrease the level of perception about Soil Health Card by 5.707 and 5.586 units respectively.

Innovativeness was found to be positively significant with the perception of farmers towards Soil Health Card. This might be due to the fact that the beneficiaries had unique occupation with moderate annual income which encouraged them to innovate and helped them to perceive the Soil Health Card much better about its recommendations. These results are supported by the findings of Patel (2013) who observed that innovativeness had positive and significant correlation with the attitude of his respondents towards Soil Health Card Programme.

It was found that perception on soil health had significant association with the perception of beneficiaries towards Soil Health Cards. It was reported that 90.90 per cent of the beneficiaries perceived their soil to be moderate to less healthy. This could be the reason for the beneficiaries which urged them to perceive better the recommendations given in the Soil Health Cards. The findings are in accordance with Choudhary (2018) who concluded that perception on soil health was one of the factors that determine the use of Soil Health Card recommendations by the farmers.

There was a significant association between the satisfaction index and the level of perception towards SHC. This might be due to the change observed by the beneficiaries after the follow up on the recommendations in the Soil Health Cards that made them to better understand the importance of the information given in Soil Health Cards. This findings is in line with Chowdary (2018) who observed that satisfaction index was also one of the factors determining the use of Soil Health Cards recommendations by the respondents.

It was stated that knowledge about the Soil Health Cards had a positive contribution to the perception of the beneficiaries towards the Soil Health Cards. The information understood by the beneficiaries would help the farmers to works towards excellence and help them to form positivism resulting in developing better perception. The results are in agreement with Aarya and Jahanara (2017) who found that knowledge level had positive significance with the attitude of the Soil Health Card programme.

Farming experience was found to negatively contribute towards the level of perception of the beneficiaries. The reason could be that most of the farmers were middle aged to old aged farmers who had low level of education that might have stopped them from better perception of the Soil Health Cards. The findings are in line with Badhe (2012) who found that farming experience was negatively correlated with the perception regarding the environmental risk in use of pesticides.

Risk orientation was found to negatively contribute to the level of perception of the beneficiaries. It was found to be inversely proportional to the perception of the beneficiaries. The results are contradictory to the findings of Charel (2018) who found that risk orientation had negative, but not significant association with the perception of the respondents towards Soil Health Cards.

CONCLUSIONS

From the above results, Innovativeness, Farming Experience, Risk Orientation, Satisfaction Index, Perception on Soil Health and Knowledge regarding SHCs were found to be significant and contribute either positively or negatively to the level of perception of the beneficiaries towards SHCs. The other variables like Age, Educational status, Land holding, Annual income, Occupational status, Extension agency contact, mass media exposure and Scientific orientation had no significant association with the perception of the beneficiaries towards SHC. Hence, considered thrust could be given to significantly contributing characteristics in order to bring about better understanding and utilization of the SHC recommendations.

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